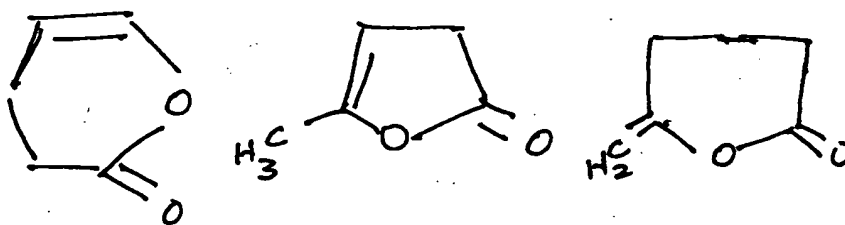


This listing of claims will replace all prior versions of claims in the application.

Claims 1-40. (cancelled)

Claim 41. (new) A photoresist comprising a photoactive component and a polymer comprising a lactone moiety provided by polymerization of a monomer having a ring oxygen adjacent to a vinyl group.

Claim 42. (new) The photoresist composition of claim 41 wherein the lactone moiety is provided by polymerization of one or more monomers chosen from among:



Claim 43. (new) The photoresist composition of claim 41 wherein the polymer comprises photoacid-labile groups.

Claim 44. (new) The photoresist composition of claim 41 wherein the polymer further comprises a carbon alicyclic group fused to the polymer backbone.

Claim 45. (new) The photoresist composition of claim 44 wherein the carbon alicyclic group is a polymerized norbornene group.

Claim 46. (new) The photoresist composition of claim 41 wherein the polymer comprises a heteroalicyclic group distinct from and in addition to the lactone moiety.

Claim 47. (new) The photoresist composition of claim 46 wherein the additional heteroalicyclic group comprises an oxygen ring member and/or a sulfur ring member.

Claim 48. (new) The photoresist composition of claim 46 wherein the additional heteroalicyclic group has a non-hydrogen ring substituent.

Claim 49. (new) The photoresist composition of claim 41 wherein the polymer comprises a polymerized acrylate that comprises a photoacid-labile moiety.

Claim 50. (new) The photoresist composition of claim 41 wherein the polymer further comprises anhydride units.

Claim 51. (new) The photoresist composition of claim 41 wherein the polymer is a terpolymer.

Claim 52. (new) The photoresist composition of claim 41 wherein the polymer is a tetrapolymer.

Claim 53. (new) The photoresist composition of claim 41 wherein the polymer is at least substantially free of aromatic groups.

Claim 54. (new) The photoresist composition of claim 41 wherein the polymer is completely free of aromatic groups.

Claim 55. (new) The photoresist composition of claim 41 wherein the photoactive component comprises one or more photoacid generator compounds.

Claim 56. (new) The photoresist composition of claim 41 wherein the photoresist is a chemically-amplified positive-acting resist.

Claim 57. (new) A method of forming a positive photoresist relief image, comprising:

- (a) applying a coating layer of a photoresist of claim 41 on a substrate; and
- (b) exposing and developing the photoresist layer to yield a relief image.

Claim 58. (new) The method of claim 57 wherein the photoresist layer is exposed with radiation having a wavelength of less than about 200 nm.

Claim 59. An article of manufacture comprising a microelectronic wafer substrate having coated thereon a layer of the photoresist composition of claim 41.